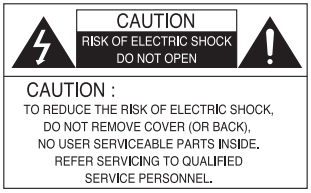


The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION - This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules & CE Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION : To prevent electric shock and risk of fire hazards:

- ◆ Do NOT use power sources other than those specified.
- ◆ Do NOT expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should conform to all local codes.

■ Contents

Features 2

Warnings and Precautions 3

Components 8

Names and Functions of Parts 9

■ Front 9

■ Bottom 10

■ Rear 11

Installation 12

■ Lens 12

- When using an DC auto iris lens
- When using a CS-Mount lens
- When using a C-Mount lens

■ Connecting to a monitor 15

- HD-SDI Output
- Composite Output

■ Connecting to power 16

■ Control via RS-485 Interface 16

Camera Operation 17

■ Menu 17

■ Settings 18

- LENS 19
- SHUTTER 20
- WHITE BALANCE 21
- DISPLAY 22
- AGC 23
- BLC 24
- DAY & NIGHT 25
- ADJUST 26
- CAMERA INFO. 27
- PRIVACY 28
- FACTORY RESET 28
- EXIT 28

Troubleshooting 29

Specifications 30

Features

HD (High Definition) Image Camera

By adopting a 1.3M camera produces HD image. the image format is 1280x720p 60.

Filter Changeable Day & Night

This camera has a function that automatically selects the mode that is appropriate for daytime or night-time conditions.
The COLOUR mode operates in daytime conditions to provide optimum colours and BW mode operates in night time conditions to enhance the definition of the image.

DNR (Digital Noise Reduction)

The amount of low illuminance noise has been significantly reduced and the signal to noise ratio (S/N ratio), as well as horizontal resolution, have been improved resulting in a clear and sharp image even in low light.

RS-485 Communication Control Support

Remote OSD menu control via an RS-485 interface is supported.

Controlled by OSD Menu

The camera functions are controlled by selecting text displayed on the monitor screen.

Additional Functions

MIRROR, SHARPNESS, BRIGHTNESS functions are also available.

Warning

The camera requires periodic inspection.

Contact an authorised technician to carry out the inspection.

Stop using your camera when you find it malfunctioning.

If the camera emits smoke or is unusually hot for a long period, a fire may be caused.

Do not Install the camera on a surface that can not support it.

If the camera is installed on an inappropriate surface, it may fall and cause injury.

Do not hold plug with wet hands.

It could cause an electric shock.

Do not dis-assemble the camera.

It may result in an electric shock or other hazards.

Do not use the camera close to a gas or oil leak.

It may result in a fire or other hazards.

■ Precautions

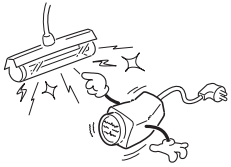
Do not install the camera in extreme temperature conditions.

Only use the camera under conditions where temperatures are between -10˚C and +50˚C. Be especially careful to provide ventilation when operating under high temperatures.

Do not install or use the camera in an environment where the humidity is high.

It can cause the image quality to be poor.

Do not install the camera under unstable lighting conditions.



Severe lighting change or flicker can cause the camera to work improperly.

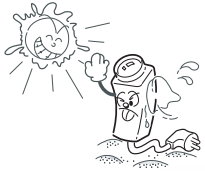
Do not touch the front lens of the camera.

This is one of the most important parts of the camera. Be careful not to leave fingerprints on the lens cover.

Do not drop the camera and protect it from physical shocks.

It can cause malfunctions to occur.

Never keep the camera pointed directly at strong light.



It can damage the CCD.

Do not expose the camera to rain or spill beverage on it.

If it gets wet, wipe it dry immediately. Liquids can contain minerals that corrode the electronic components.

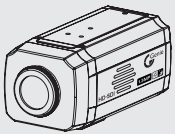
Do not expose the camera to radioactivity.

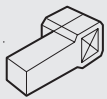
If exposed to radioactivity the CCD will fail.

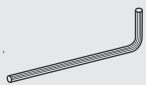
Note

- If the camera is exposed to spotlight or an object reflecting strong light, smear or blooming may occur.
- Please check the power supply satisfies the normal specification before connecting the camera.

■ Components

1. DAY/NIGHT BOX CAMERA 

2. AUTO IRIS LENS CONNECTION PLUG 

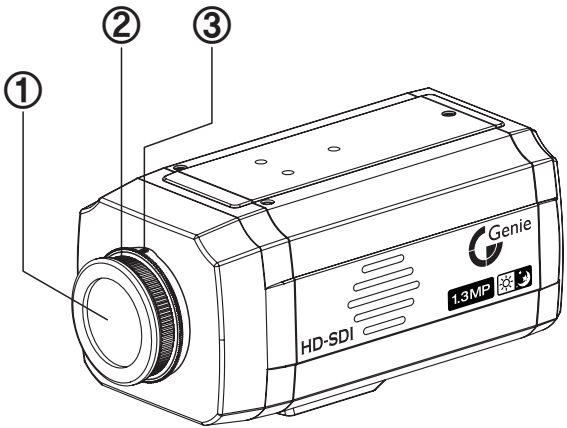
3. L-WRENCH 

4. C-MOUNT ADAPTOR

5. INSTRUCTION GUIDE

Names and Functions of Parts ■

Front

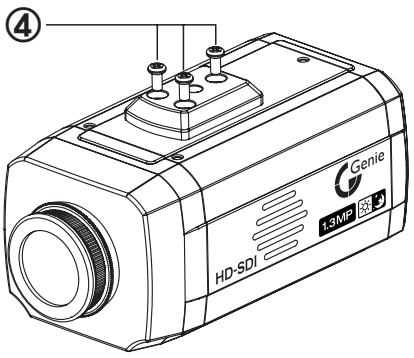


① **Lens protection cap**
Cover the lens when not in use.

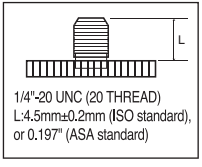
② **CS-Mount lens adaptor**
Attach the CS-Mount lens here.

③ **Back Focus clamp screw**
Loosen the clamp screw with a L-wrench before adjusting the Back Focal length.

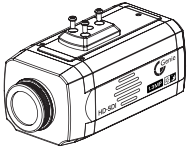
Bottom



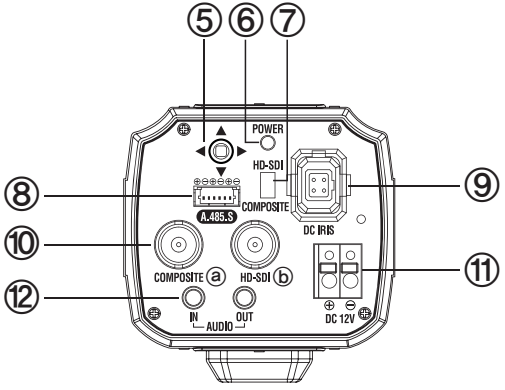
④ **Mounting bracket screw hole**
Use the screw hole when fixing the camera onto the mounting bracket.
Please use the clamp screw as specified in the picture.



※ The mounting bracket can be separated and attached on the top of the camera.
please do not tighten the screw to a depth of more than 5mm, otherwise serious damage can occur to the inside of the camera.



Rear



⑤ **Setting Joystick**

⑥ **Power**
Power LED

⑦ **Made select switch**
Select switch for video output.

⑧ **Alarm / RS-485 / Sensor**
Serial port. Support RS-485 protocol. External sensor input and alarm out.

⑨ **Lens Connector**
Connection terminal for an auto iris lens.

⑩ **Composite / HD-SDI**
BLC connector for composite ⓐ and HD-SDI ⓑ.

⑪ **Power input terminal**
DC 12V power input.

⑫ **Audio IN / OUT**
Bypass

■ Lens

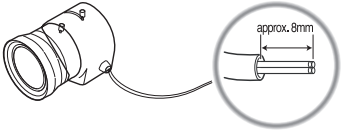
Lenses are sold separately. Lenses such as auto iris lens, CS-Mount lens and C-Mount lens can be used.

Note

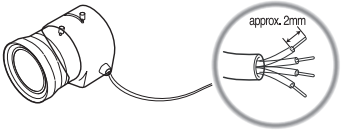
- Use of the DC auto iris lens is recommended to achieve the best results for operating this product effectively.
- Keep the lens clean.
- Any foreign objects and fingermarks on the lens can cause inferior image quality in low light level conditions.

When using an DC auto iris lens

1. Peel off about 8mm of the outer skin of the auto iris lens cable.

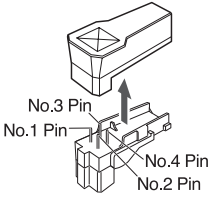


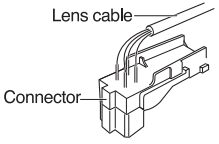
2. Peel off about 2mm of the outer skin of the insulated conductor inside the lens cable.



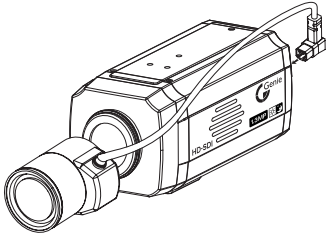
3. Remove the cover of the auto iris lens connection plug and solder the lens cable to the connector pin in the plug.

Pin No.	LENS
No.1 Pin	Damping-
No.2 Pin	Damping+
No.3 Pin	Drive+
No.4 Pin	Dreve-





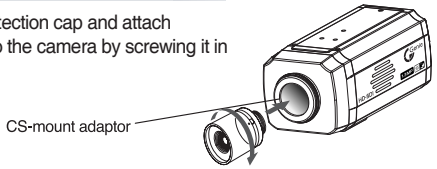
4. Replace the auto iris lens connection plug cover and take off the lens protection cap, and then attach the auto iris lens to the camera by screwing it in clockwise.
5. Insert the connection plug that is connected to the auto iris lens cable into the auto lens connector, which is located on the back of the camera.



■ Installation

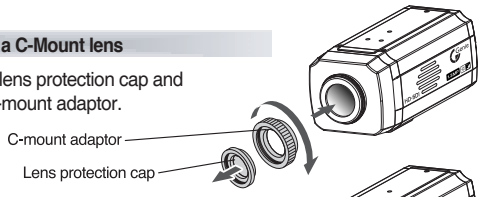
When using a CS-Mount lens

Take off the lens protection cap and attach the CS-Mount lens to the camera by screwing it in clockwise.

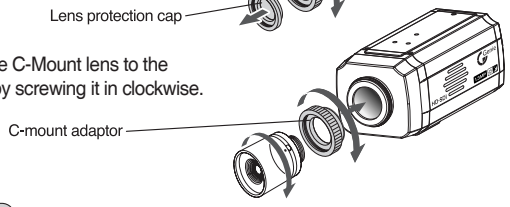


When using a C-Mount lens

1. Take off the lens protection cap and attach the C-mount adaptor.

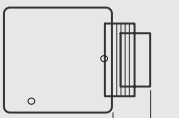


2. Attach the C-Mount lens to the camera by screwing it in clockwise.



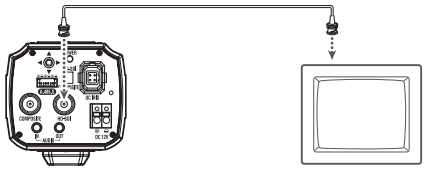
Note

- Use the specified lens connection parts as shown in the picture below. The use of the wrong sized parts may cause damage to the inside of the camera or result in poor fitting.
- Use of a lens which is too heavy affects the balance of the camera and may cause a malfunction. Please use a lens that weighs less than 450g.
- Select Av mode if possible when adjusting the automatic light control (ALC) of an auto lens. Use of PK mode may cause hunting.



■ Connecting to a monitor

HD-SDI Output



① Push up the video output select switch before power on the camera or push the reset button.

② Connect the HD-SDI output terminal located on the back of the camera to the HD-SDI input port of the HD-SDI monitor.

Composite Output

① Pull down the video output select switch, before power on the camera or push the reset button.

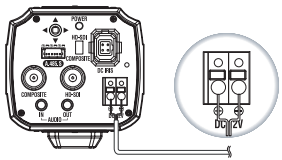
② Connect the COMPOSITE output terminal located on the back of the camera to the VIDEO input port of the monitor.

- The connection method varies depending on the type of monitor and accessories. Please refer to the monitor user manual.
- Turn off the power when connecting.

■ Connecting to power

Check the standard power requirement before connecting to power.

DC power adapter (DC12V,1A)



■ Control via RS-485 Interface

The camera can be controlled by using an external controller equipped with RS-485 communications.

• To control using a DVR or keyboard controller

Connect the RS-485 cable (TRX+, TRX-) to the connection port of the 485 control board in the DVR or controller.

485 Control Board Connection Port	RS-485 Control Port
(+) CONNECTION TERMINAL (TRX+)	485+
(-) CONNECTION TERMINAL (TRX-)	485-

* RS-485 communication default initial values

Item	Camera ID	BAUD RATE	UART MODE	PET PKT
Initial value	1	9600	8-NONE-1	ENABLE

Note

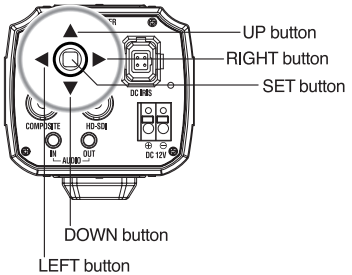
• To control the camera by constructing an additional controller, use Pelco-D protocol.
(NEAR Key : Enters into OSD menu or Set key function)

■ Menu

SETUP menu		
LENS (selection)	· MANUAL	· DC
SHUTTER (condition and speed control)	· FLICKERLESS · MANUAL	· AUTO
WHITE BALANCE	· ATW · MANUAL	· FIXED
DISPLAY	· HDSDI · MIRROR	· COMPOSITE
AGC	· OFF · MID · HIGH PLUS	· LOW · HIGH
BLC	· OFF · MID	· LOW · HIGH
DAY & NIGHT	· AUTO · COLOR	· B/W
ADJUST	· BRIGHTNESS · CHROMA · ALARM TYPE	· SHARPNESS · SENSOR TYPE · DNR
CAMERA INFO.	· FIRMWARE VER. · CAMERA ID	· GAMMA · BAUD RATE
PRIVACY		
FACTORY RESET		
EXIT		

■ Settings

Settings can be made using the 5 buttons located in the camera.



1. Press the SET button
   - Settings can now be made. The SETUP main menu is displayed on the monitor.

MAIN MENU	
▸ LENS	DC
SHUTTER	▶
WHITE BALANCE	▶
DISPLAY	▶
AGC	MID
BLC	OFF
DAY & NIGHT	▶
ADJUST	▶
CAMERA INFO.	▶
PRIVACY	▶
FACTORY RESET	
EXIT	

2. Select a menu item from the list available by pushing the joystick to UP side and DOWN side.
   - The selected menu is displayed in blue.

Select the desired menu item by pushing the joystick UP and DOWN.

MAIN MENU	
▸ LENS	DC
SHUTTER	▶
WHITE BALANCE	▶
DISPLAY	▶
AGC	MID
BLC	OFF
DAY & NIGHT	▶
ADJUST	▶
CAMERA INFO.	▶
PRIVACY	▶
FACTORY RESET	
EXIT	

Modes can be changed pushing the jostick LEFT and RIGHT

3. Move the joystick LEFT and RIGHT to change modes.
   - When you push the joystick LEFT or RIGHT, available values and modes are displayed in order. Keep pushing the joystick until you get to the mode you wish to select.
4. Select 'EXIT' and then press the joystick to exit the set up menu.

Note

- If ▶ appears at the mode selected, it means that there is a sub-menu which can be selected by pressing the joystick.

LENS (selection)

This function is used to select the LENS type.

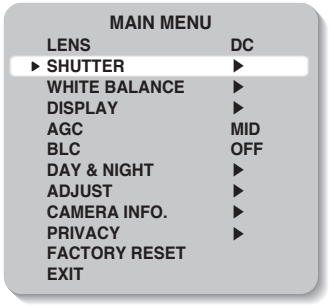
MAIN MENU	
▸ LENS	DC
SHUTTER	▶
WHITE BALANCE	▶
DISPLAY	▶
AGC	MID
BLC	OFF
DAY & NIGHT	▶

- **DC** : Auto Iris Lens selection.
- **MANUAL** : Manual Lens selection.

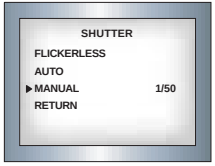
SHUTTER (condition and speed control)

Auto or manual control can be selected.

1. Position the cursor to point to 'SHUTTER' on the SETUP menu and press the joystick.



2. Select the mode you wish to adjust by moving joystick UP and DOWN. And press the joystick.

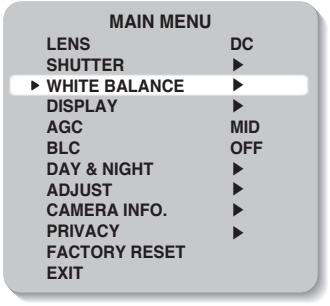


- **FLICKERLESS** : It is used to compensate flicker.
- **AUTO** : In this mode, camera decide proper shutter speed.
- **MANUAL** : in this mode, user select the shutter speed from 1/30 to 1/10,000 (in NTSC area) and 1/50 to 1/10,000 (in PAL area).

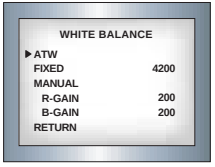
WHITE BALANCE

The screen colours can be adjusted using the WHITE BALANCE function.

1. Position the cursor to point to 'WHITE BAL' on the SETUP menu and press the joystick.



2. Select the mode you wish to adjust by moving joystick UP and DOWN. And press the joystick.



- **ATW (Auto Tracking White Balance)** : This mode can be used with in the colour temperature range 2,500˚K~11,000˚K.
- **FIXED** : This mode can be used under fixed light source.
- **MANUAL** : The manual adjustment mode enables finer adjustment. Select manual adjustment mode and press the SET button. Set the appropriate colour temperature then increase / decrease the red and blue colour values and monitor the colour changes of the object.

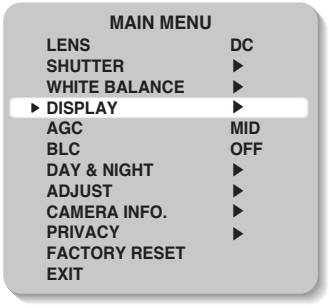
Note

- Under the following conditions the WHITE BALANCE function may not operate properly. In such cases, please select the FIXED mode or MANUAL mode.
  ① When the object's surroundings have a very high colour temperature. (eg, a clear sky and sunset)
  ② When the object's surroundings are dark.
  ③ If the camera directly faces a fluorescent light or is installed in a place where there are considerable changes in illumination, the WHITE BALANCE function may become unstable.

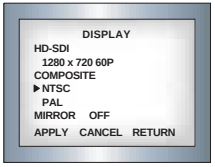
DISPLAY

This function shows the information of display mode of HD-SDI output and user can select composite output mode between NTSC and PAL.

1. Position the cursor to point to 'DISPLAY' on the SETUP menu and press the joystick.

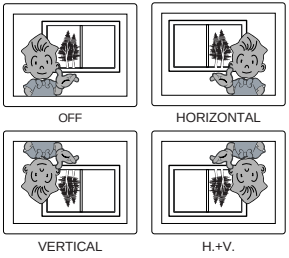


2. Select the mode you wish to adjust by moving joystick UP and DOWN. And press the joystick.



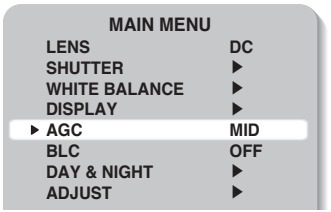
3. If there is any change, Select 'APPLY' and then press the joystick to apply the changes.
4. If there is no change or applied the chagnes, select 'RETURN' and then press the joystick to return to MAIN MENU.

- **HD-SDI** : Shows the information of HD-CCTV format. (1280 x 720p 60)
- **COMPOSITE** : NTSC / PAL selectable.
- **MIRROR** : OFF / HORIZONTAL / VERTICAL / H.+V. selectable.



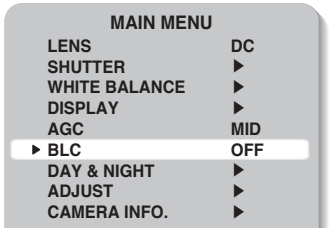
AGC (Auto Gain Control)

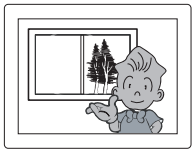
The higher the gain level, the brighter the screen but the higher the noise. There are four AGC level - HIGH PLUS / HIGH / MIDDLE / LOW / OFF.



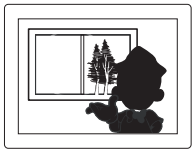
BLC (Back Light Compensation)

When there is a strong light behind the object, bright images of the object can still be obtained by using the BACKLIGHT function. But the image of background is saturated.
User can select the level of BLC among OFF, LOW, MIDDLE and HIGH.





BLC ON
(LOW / MIDDLE / HIGH)

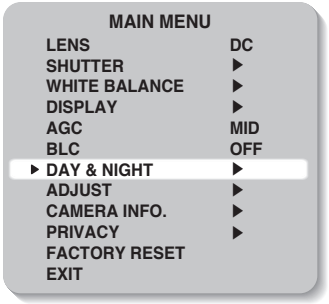


BLC OFF

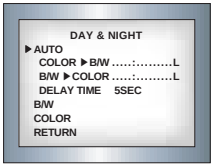
DAY & NIGHT

Pictures can be displayed in either colour or black and white.

1. When the SETUP menu screen is displayed, select 'DAY/NIGHT' pushing the joystick Up and Down.



2. Select the 'AUTO' mode pushing the joystick Left and Right.

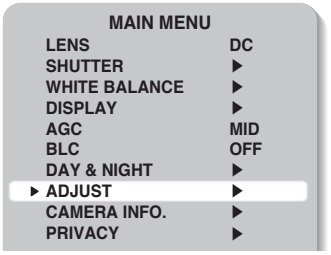


- **COLOUR** : The picture is displayed in colour.
- **B/W** : The picture is always displayed in black and white.
- **AUTO** : This function automatically changes to appropriate mode according to lighting levels. The changing time and delay time is selectable.

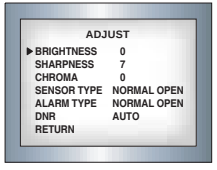
■ Camera Operation

ADJUST

1. Position the cursor to point to 'ADJUST' on the SETUP menu and press the joystick.



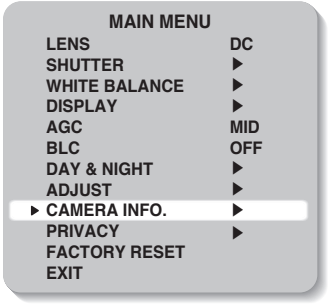
2. Select the mode you wish to adjust by moving joystick UP and DOWN. And press the joystick.

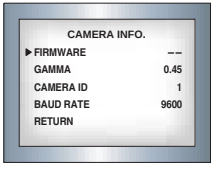


- **BRIGHTNESS** : Can adjust the brightness of image. Push the joystick LEFT to decrease the brightness and RIGHT to increase the brightness.
- **SHARPNESS** : The sharpness of the image can be adjusted using the left and right buttons.
- **CHROMA** : The colour strength of the image can be adjusted using the left and right buttons.
- **SENSOR TYPE** : Can select the external input sensor type between normal open and normal closed. In normal open mode, when low level signal is checked, the camera send the alarm signal. In normal close mode, the camera check high level signal.
- **ALARM TYPE** : User can select the alarm output signal type. In normal open mode, when there is the external sensor input, the camera put the low level signal out. In normal close mode, when the external sensor input is checked, the high level signal is out for alarm signal.
- **DNR (Digital Noise Reduction)** : User can select whether using DNR function or not. DNR function is selectable among low, high and auto.

CAMERA INFO.

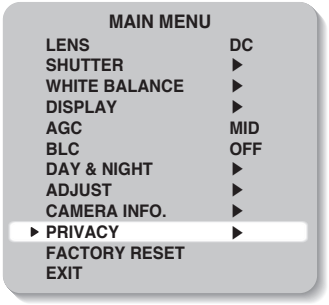
Show the camera firmware version, gamma setting value and RS485 setting value. It is possible to change RS485 setting - Camera ID and baud rate.





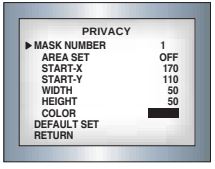
PRIVACY

Hide an area so that it is not displayed on the monitor.



● **MASK NUMBER** : Select the masking area wanted to adjust. Maximum number is 20.

- AREA SET : ON / OFF selectable.
- START-X : Start position of horizontal direction.
- START-Y : Start position of vertical direction.
- WIDTH : Width of mask.
- HEIGHT : Height of mask.
- COLOUR : Select Black, Grey, White, Red, Green or Blue.



FACTORY RESET

Resets the camera settings to the factory defaults.

EXIT

Press the joystick on the EXIT menu to save the current settings and exit the SETUP menu.

If there are problems with the camera operation, check the tables below. If the problem persists, please contact the agent who supplied the product.

Problems	Troubleshooting
Nothing appears on the screen.	· Check the power connection. · Check the video signal line connection. (HD-SDI, Composite) · Check the video out select switch on the back of the camera. (15p)
The video image is not clear.	· Make sure that the lens is clean. Clean the lens with a clean lint free cloth or brush. · Make sure that the screen is not exposed directly to a bright light. Re-position the camera if necessary. · Re-adjust the back focus of the camera. · Adjust the contrast control on the monitor.
The screen is dark.	· If there is an intermediate device, set the75ohm Hi-z correctly, and also check the connections. · Check the brightness level. · Adjust the contrast control on the monitor.
There is a problem with the camera operation. The camera surface is too hot and black stripes appear on the screen.	· Please check if an appropriate power source to the camera complies with the manufacturer's standard requirement, or if the voltage is fluctuating. Check for ground loops.
Colours are not quite right.	· Check the 'WHITE BAL' setting.
The screen is flickering.	· Check if the camera is facing directly into sunlight or fluorescent light. · Check the display type NTSC or PAL.
COLOUR mode is not working.	· Check if the AGC menu is set to the OFF position.

■ Specifications

ITEM	1.3 Megapixel True Day&Night Camera
Image Sensor	1/3" SONY 1.3M pixel CMOS Progressive Scan Sensor
Pixels	Total : 1384(H)x1076(V), Effective : 1329(H)x1049(V)
Video Out Resolution	1280x720p 60
TV Output	NTSC / PAL
Video Output	1 x HD-SDI SMPTE 292M / 75Ω BNC 1 x Analogue composite / 75Ω BNC
Sync System	Internal
S/N Ratio	More than 50dB
Shutter	Flickerless / Auto / Manual(1/30 ~ 1/12,000)
White Balance	ATW / Fixed / Manual
DNR	ON / OFF
Privacy Zones	20 Zones
OSD	Built-in
BLC	Off / Low / Mid / High
AGC	Off / Low / Mid / High / Highplus
Adjustment	Brightness, Sharpness, DNR
Sensor & Alarm	1 x Sensor In, 1 x Relay Out
Control	1 x RS-485
Power Source	DC 12V
Power Consumption	400mA
Operating Temp.	-10˚C ~ 50˚C / 14˚F ~ 122˚F
Humidity	30% ~ 80%
Weight	Appro. 290g

MEMO ■

■ MEMO

Model : HDC131

Megapixel HD-CCTV Day/Night Camera

Instruction Guide

GENIE CCTV LTD.
CCTV House, City Park, Watchmead, Welwyn Garden City, Hertfordshire, AL7 ILT
Tel : +44 (0) 1707 330541 Fax : +44 (0) 1707 330543
www.geniecctv.com

Edition. GN-SEPTEMBER 2011